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E2A AARD AMXE A100 A162 A190 A421 A510

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(58) Field of Search

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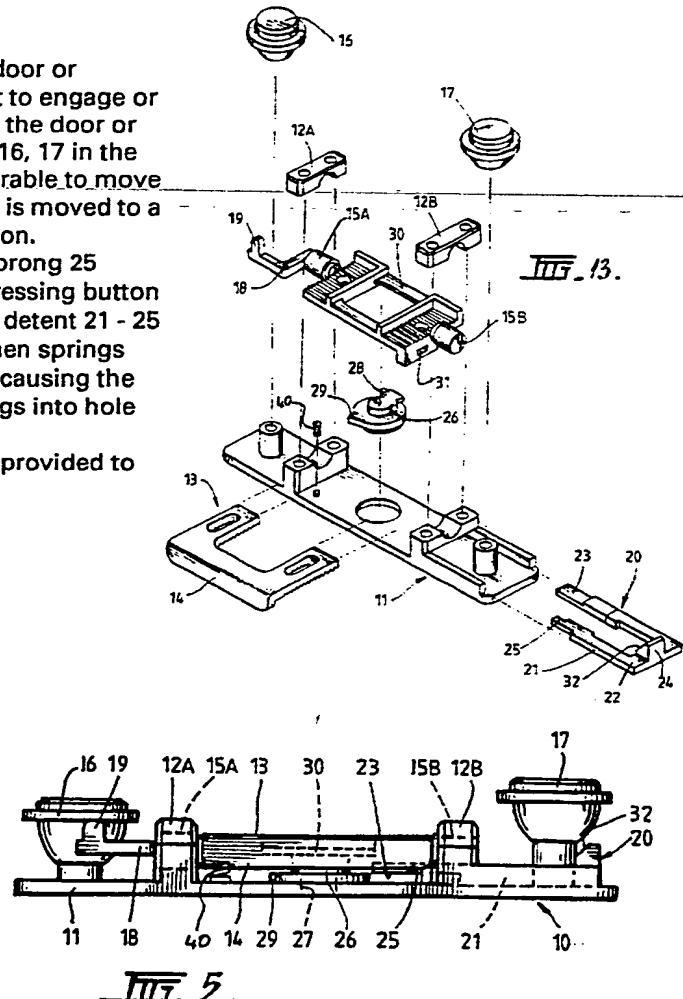
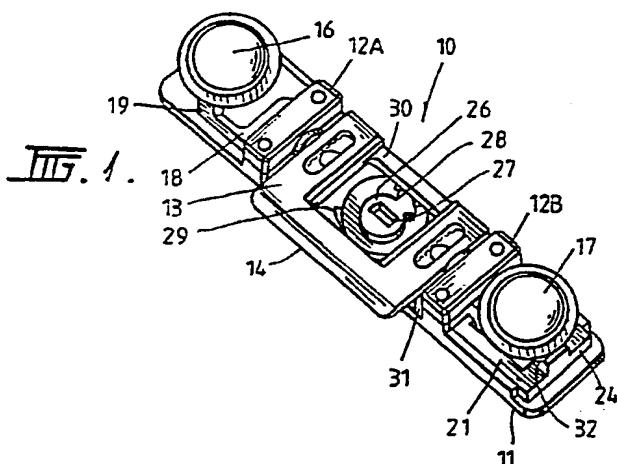
Chancery House, 53-64 Chancery Lane, LONDON,
WC2A 1SD, United Kingdom

(54) A lockable sliding door or window fastening

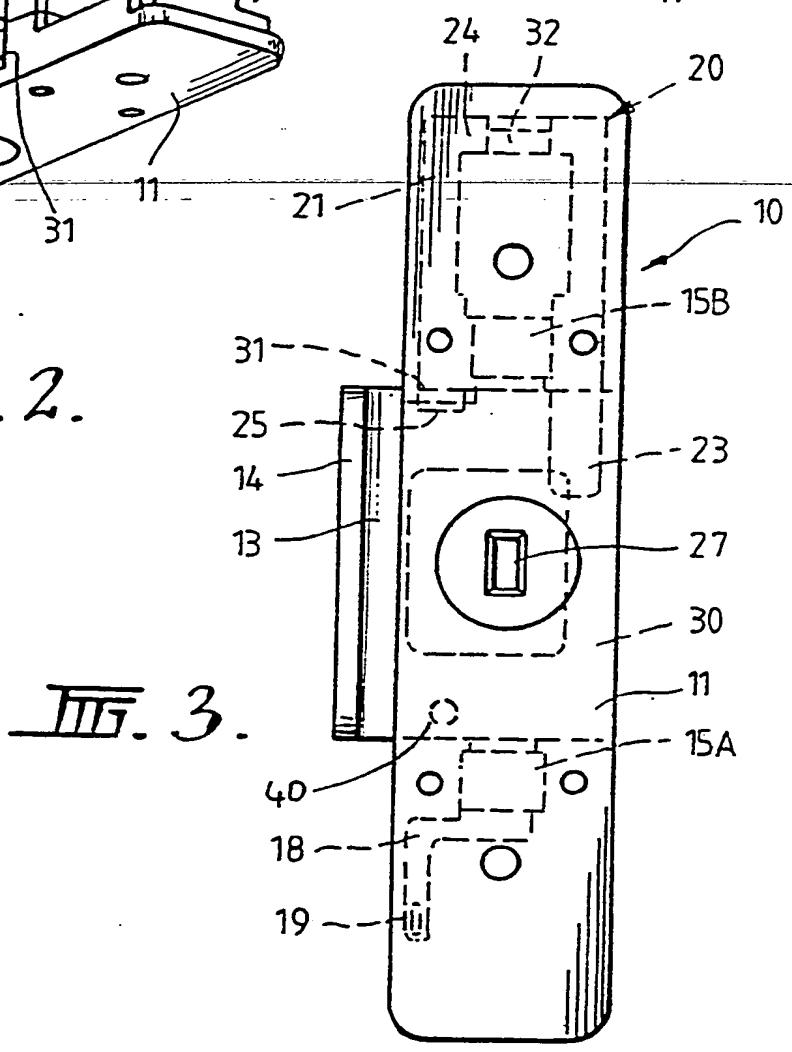
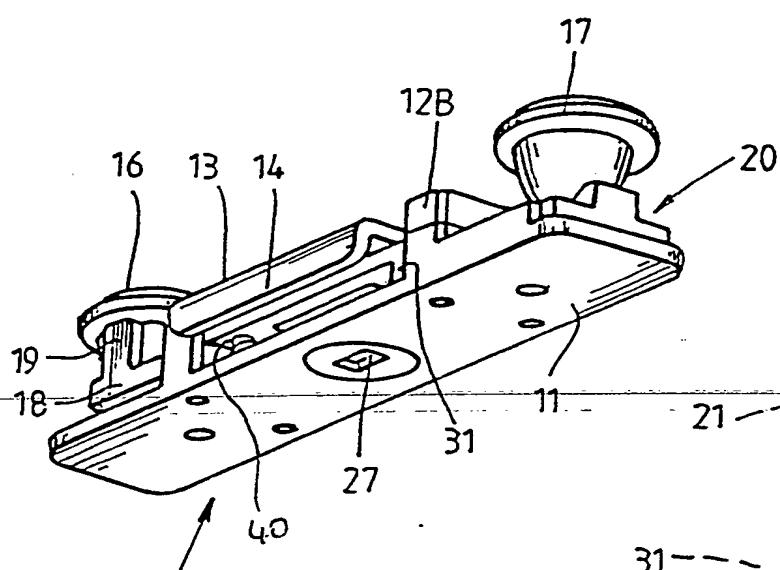
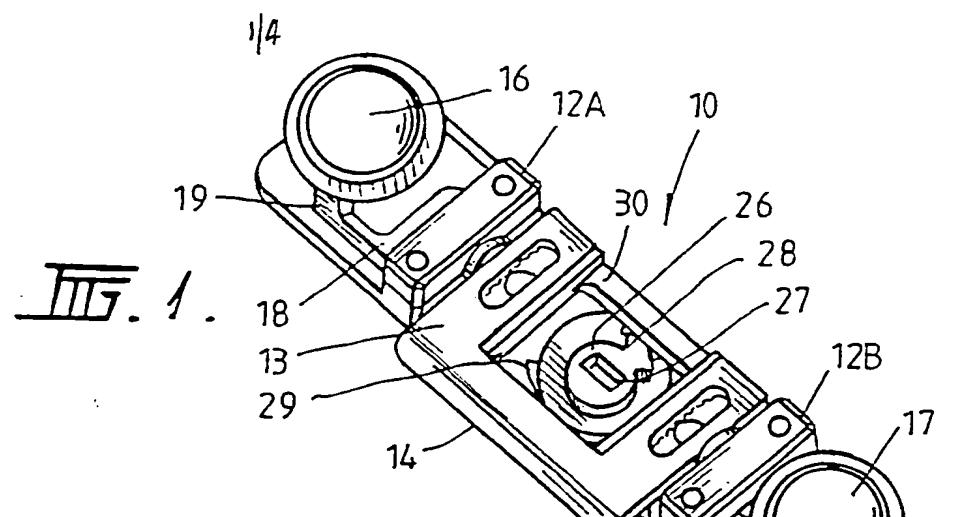
(57) A lockable fastening 10 is shown for a sliding door or window. The lock has a tongue 13, 14 which can pivot to engage or disengage with a fixed frame part of a frame in which the door or window can slide. The lock has user operable means 16, 17 in the form of two buttons 16, 17 which are respectively operable to move a lock means 20, 21, 23, 25, 31 (Fig. 13) the tongue (13) is moved to a first, locked, position and to a second, unlocked position.

The lock detent 21 - 25 is spring biased so that prong 25 thereof engages in hole 31 of the fastening tongue. Pressing button 17 causes its under surface to engage bevel 32 of lock detent 21 - 25 and withdraw it from hole 31. The fastening tongue then springs open. Pressing button 16 engages arm 19 of lever 18, causing the fastening tongue to pivot closed until the detent springs into hole 31.

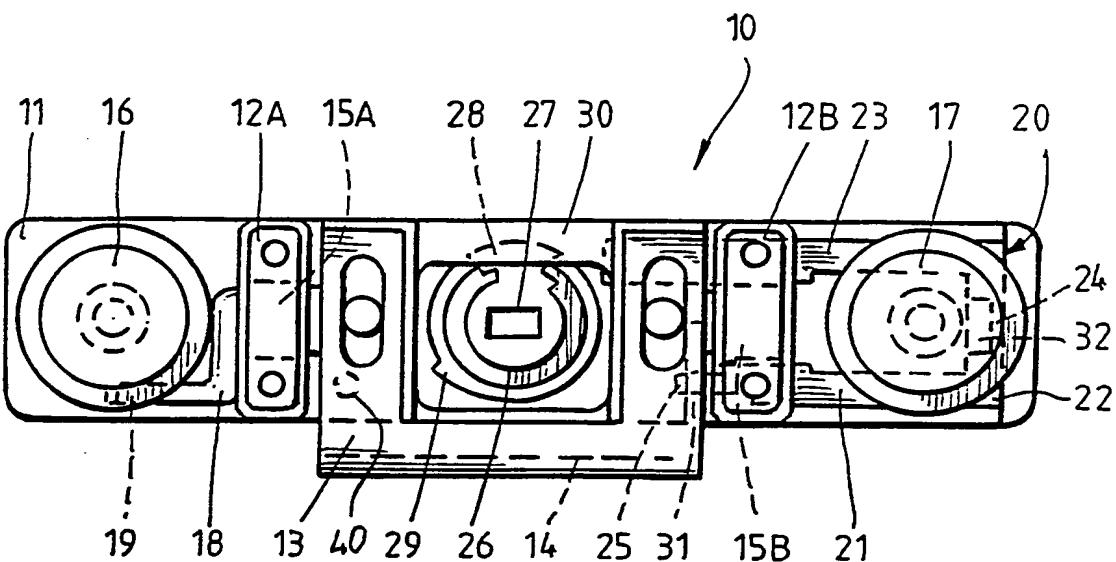
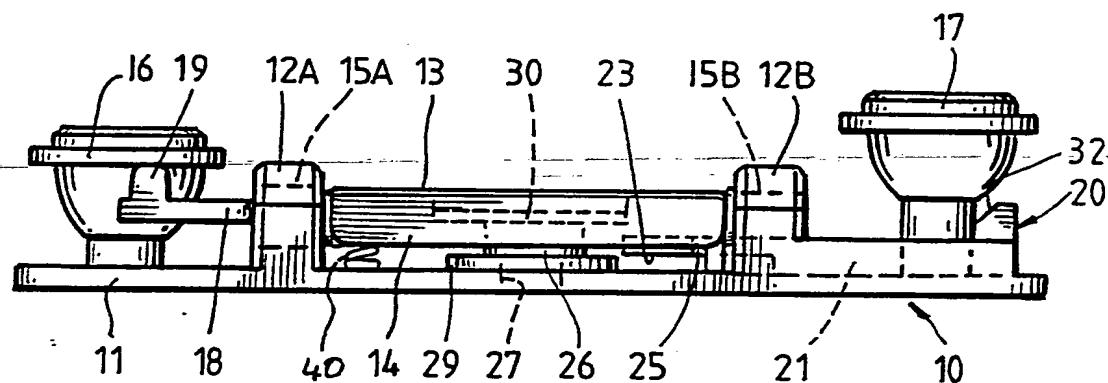
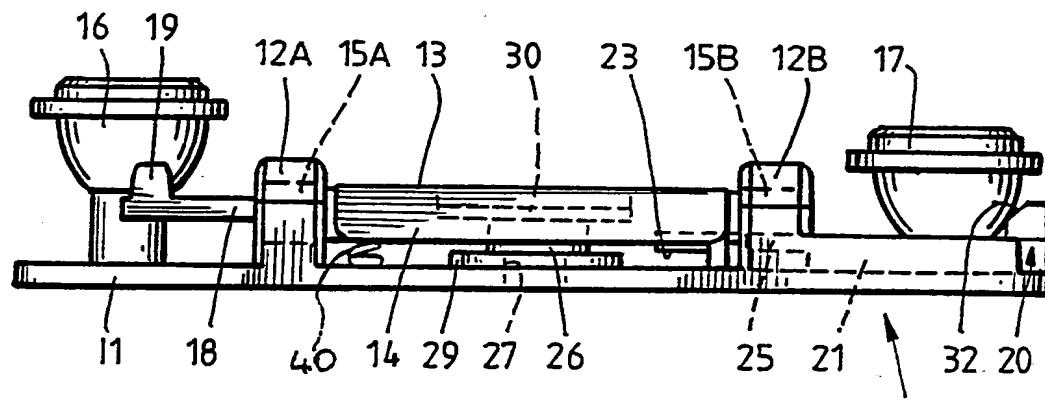
An additional cylinder lock (not shown) may be provided to lock the whole assembly.

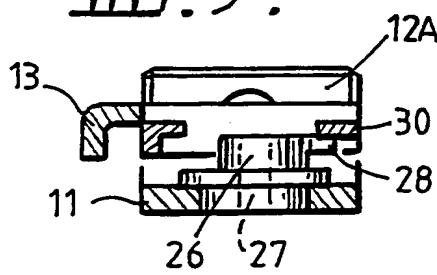
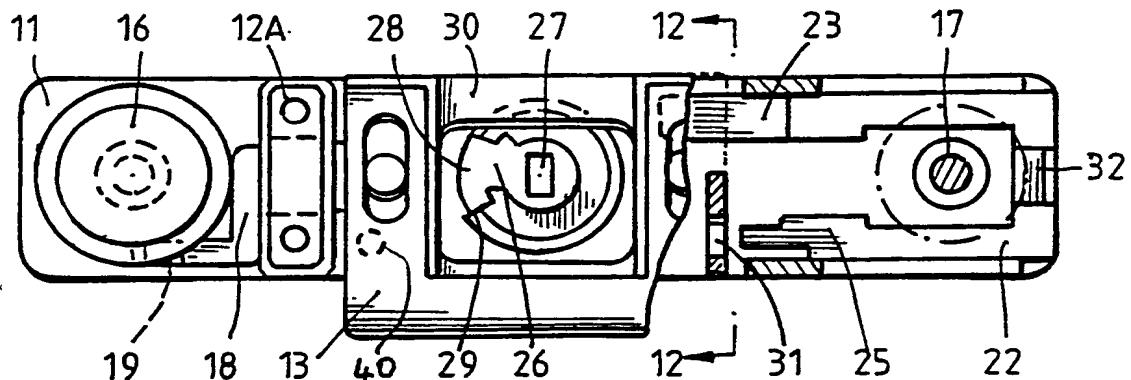
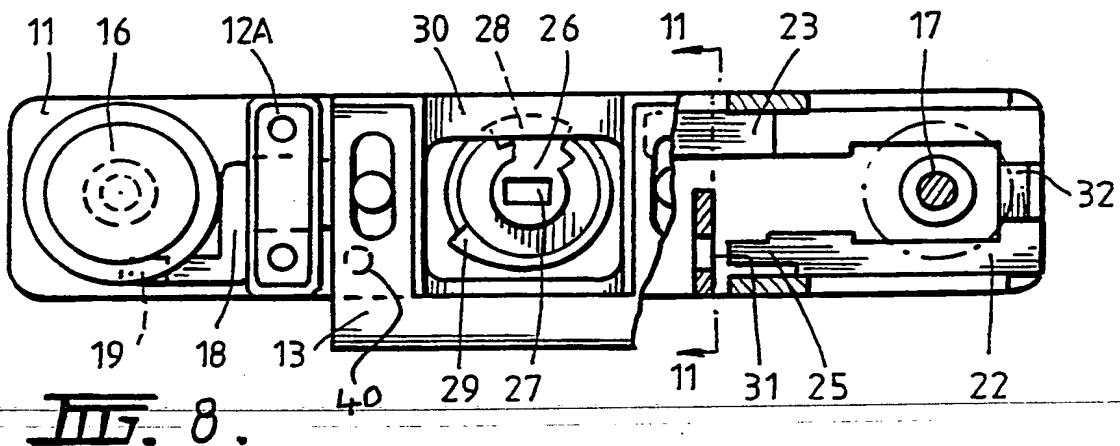
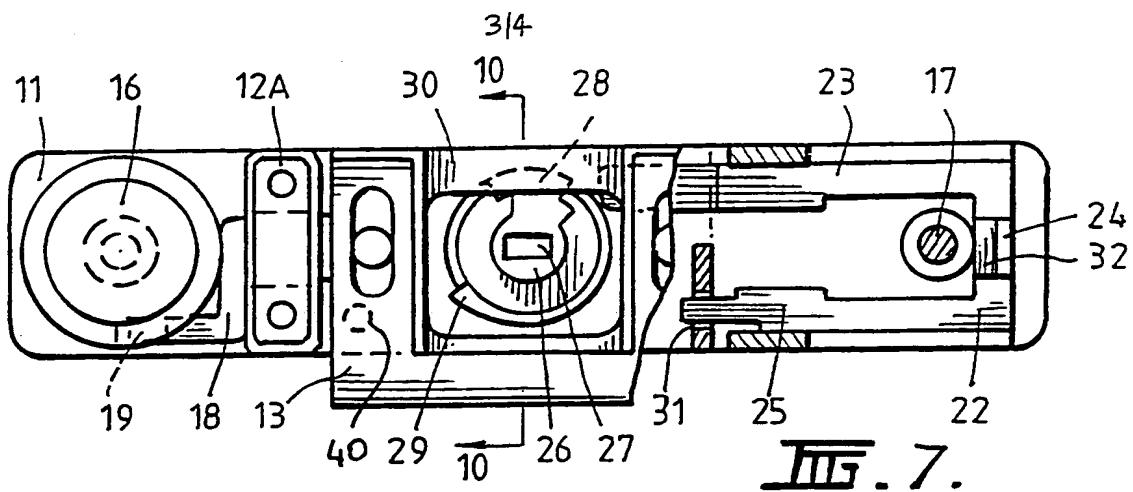


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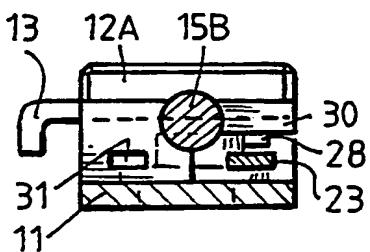


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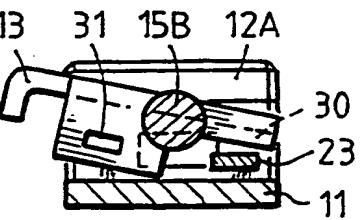
FIG. 4.FIG. 5.FIG. 6.



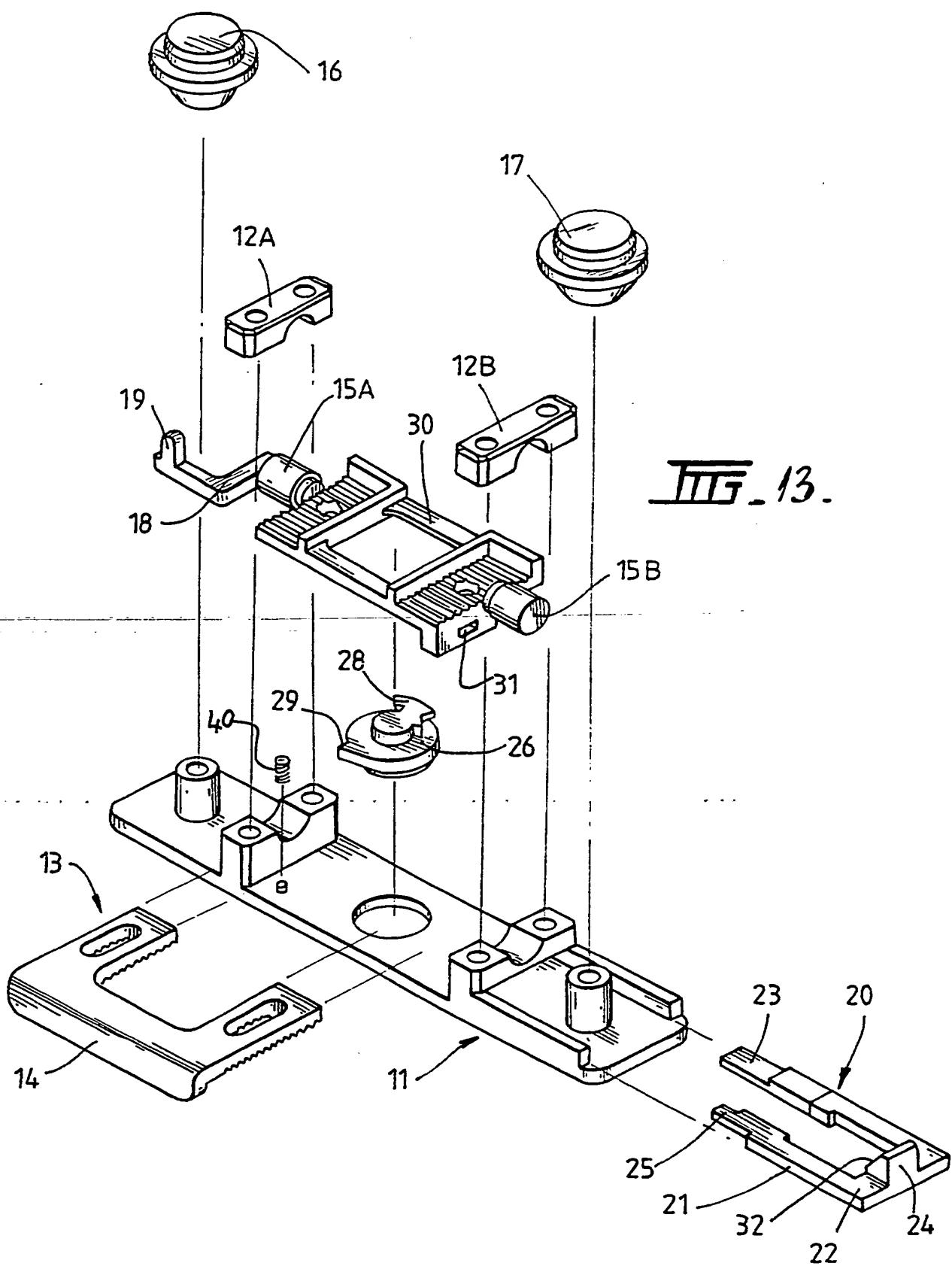
四. 10.



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- 1 -

A LOCK

TECHNICAL FIELD

The present invention relates to locks, catches and latches and more particularly to such items for sliding doors and windows.

BACKGROUND OF THE INVENTION

Catches for sliding windows frequently just consist of a handle which is pivotally mounted on the window, and is movable to engage a lip on the surrounding frame. The handle is biased to a lip engaging grip position by means of a spring. When the catch is to be released, the user must pivot the handle and then must simultaneously pull on the window or door to cause sliding horizontal movement thereof to permit its opening.

The above operation is sometimes difficult. Still further, the above discussed arrangement does not provide a key lock to retain the handle locked in the grip position.

OBJECT OF THE INVENTION

It is the object of the present invention to overcome or substantially ameliorate the above disadvantages.

SUMMARY OF THE INVENTION

There is disclosed herein a lock to prevent relative movement between two elements, said lock comprising:

a base to be secured to a first one of said elements;

a lock tongue to engage the other element to retain said other element fixed with respect to said first element, said lock tongue being mounted for movement between a retaining position with respect to said other element and a release position permitting separation of the elements;

lock means to selectively retain said tongue in said retaining position, said lock means being moveable between a first position maintaining said tongue in said

retaining position and a second position permitting movement of said lock tongue to its release position;

5 a first user operable means mounted on said base and operatively associated with said lock means so that upon manipulation of said first user operable means, said lock means is moved to its second position; and

10 second user operable means mounted on said base and operatively associated with said lock means so that upon manipulation of said second user operable means, said lock means is moved to its first position.

Preferably said first user operable means and said second user operable means are respective first button means and second button means.

15 Preferably, the lock means is biased to its first position, said second user operable means moves the lock tongue to its retaining position whereat it is engaged by said lock means by movement thereof to its first position, and said tongue is biased to its release position.

BRIEF DESCRIPTION OF THE DRAWINGS

20 A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings wherein:

Figure 1 is a schematic top perspective view of a window lock;

25 Figure 2 is a schematic bottom perspective view of the lock of Figure 1;

Figure 3 is a schematic bottom plan view of the lock of Figure 1;

30 Figure 4 is a schematic top plan view of the lock of Figure 1;

Figure 5 is a schematic front elevation of the lock of Figure 1 with a lock tongue in the locked position with a lock barrel lock in a locked position;

35 Figure 6 is a view similar to that in Figure 5 showing the lock tongue ready for movement to an unlocked position;

Figure 7 is a part cross section plan view of the

lock with the lock tongue in a locked position;

5 Figure 8 is a view similar to Figure 7 with the lock tongue moved to the unlocked position but unable to move until the lock barrel lock is rotated to an unlocked position;

Figure 9 is a view similar to Figure 8 but showing the lock barrel lock having rotated to an unlocked position;

10 Figure 10 is an end section view along section 10-10 of Figure 7;

Figure 11 is an end section view along section 11-11 of Figure 8;

Figure 12 is an end section view along section 12-12 of Figure 9; and

15 Figure 13 is an exploded perspective view of the components.

In the accompanying drawings there is schematically depicted a lock 10 to be used in conjunction with a sliding door or window, to retain the door or window closed. For example, the lock 10 could be mounted on the door frame and engage a lip on the sliding door. Alternatively the positions may be reversed. The same applies to a sliding window.

25 The lock 10 includes a base 11 which may be secured to the fixed or moving element. The base 11 includes a pair of pivot pedestals 12A and 12B which pivotally support a lock tongue 13 having a lip 14 to engage an associated lip of the other element. The lock tongue 13 is pivotally movable between a release position 30 and a retaining position. The lock tongue 13 has laterally extending axles 15A and 15B which are received within the pedestals 12A and 12B.

35 Mounted on the base 11 for reciprocating movement relative thereto user operable means in the form of buttons 16 and 17. The button 16 is the latch button, while the button 17 is the release button. When the button 16 is actuated, the tongue 13 is pivoted to its retaining

position and is maintained therein. When the button 17 is pushed, the tongue 13 is permitted to move to its release position.

Extending from the axle 15A is a lever 18 which 5 has an abutment 19 positioned below the button 16. Accordingly when the button 16 is depressed, the lock tongue 13 is pivoted to its retaining position.

Operatively associated with the button 17 is a 10 lock slide 20 which is of generally "U-shaped" configuration so as to have a base 22 and a pair of legs 21 and 23. The base 22 is provided with a cam abutment 24 having a sloping cam surface 32 which engages the lower surfaces of the button 17. The leg 21 extends beneath the pedestal 12B to project into the path of movement of the 15 tongue 13. More particularly, the tongue 13 is provided with an eyelet 31 adjacent the pedestal 12B, which eyelet 31 is engaged by the extremity 25 of the leg 21.

The leg 23 extends beneath the pedestal 12B to 20 adjacent a second lock means comprising a rotatably mounted disc 26.

Extending between the tongue 13 and the base 11 is a spring 40 biasing the tongue 13 to its release position. The lock slide 20 is movable between a first 25 position having the extremity 25 engaged with the eyelet 31 of the tongue 13, and a second position having the extremity 25 spaced from the eyelet 31 and thereby permitting movement of the tongue 13 to its release position. A further spring (not shown) extends between the lock slide 20 and the base 11 to bias the lock slide 20 to 30 its first position, that is to move the extremity 25 into engagement with the eyelet 31.

In operation of the above described lock 10, the tongue 13 will stay in its release position until the button 16 is depressed. When the button 16 is depressed, 35 the tongue 13 is moved to its retaining position. The eyelet 31 is then aligned with the extremity 25, and under the influence of the associated spring, the lock slide 20

moves to locate the extremity 25 within the eyelet 31. The lock tongue 13 is then maintained in its retaining position. When the button 17 is operated, the lock slide 20 is moved to its second position having the extremity 25 clear of the eyelet 31. Under the influence of the spring 40, the lock tongue 13 then pivots to its release position. The slide 20 has its cam surface 32 engaged by the undersurface of the button 17 to cause movement of the slide 20.

10 The above described lock 10 is intended to be provided with a housing. Mounted in that housing is a key operated cylinder lock (not shown), which is useable to rotate a disc 26 via the slot 27 therein. The disc 26 is also provided with an abutment 28 and a cam member 29.

15 When the cylinder lock is rotated to its lock position, the disc 26 is rotated to position the abutment 28 beneath the bar 30 of the lock tongue 13. This then maintains the lock tongue 13 in its retaining position. In this respect it should be appreciated that once moved to this position, the
20 extremity 25 automatically moves into engagement with the eyelet 31. Accordingly there are two separate lock mechanisms which maintain the lock tongue 13 in this retaining position.

25 When the cylinder lock is key operated to be moved to its unlocked position, the cam member 29 is moved until it engages an extension of the leg 23 which passes beneath the pedestal 12B. The cam member 29 causes movement of the leg 23, to move the lock slide 20 to its second position. Accordingly the abutment 28 is moved from
30 beneath the bar 30, and the extremity 25 moved from its eyelet 31. Accordingly the lock tongue 13 is then free to move to its release position.

CLAIMS:

1. A lock to prevent relative movement between two elements, said lock comprising:

a base to be secured to a first one of said elements;

a lock tongue to engage the other element to retain said other element fixed with respect to said first element, said lock tongue being mounted for movement between a retaining position with respect to said other element and a release position permitting separation of the elements;

lock means to selectively retain said tongue in said retaining position, said lock means being moveable between a first position maintaining said tongue in said retaining position and a second position permitting movement of said lock tongue to its release position;

a first user operable means mounted on said base and operatively associated with said lock means so that upon manipulation of said first user operable means, said lock means is moved to its second position; and

second user operable means mounted on said base and operatively associated with said lock means so that upon manipulation of said second user operable means, said lock means is moved to its first position.

2. The lock of claim 1 wherein said first user operable means and said second user operable means are respective first button means and second button means.

3. The lock of claim 1 or claim 2 wherein said lock means is biased to its first position, said second user operable means permits movement of said tongue to its retaining position whereat said tongue is engaged by said lock means by movement thereof to its first position, and said tongue is biased to move to said release position.

4. The lock of claim 1 or 2, wherein said lock tongue is pivotally mounted for movement between its retaining and release positions, about a pivot axis, and said first and second user operable means are mounted for

operative movement in a direction normal to said pivot axis.

5. The lock of claim 3 or claim 4, wherein said tongue includes an engagement portion, and said lock means includes a lock member, said lock member being moveable between a first and a second position, with said lock member in its first position engaging said engagement portion to retain said tongue in its retaining position, while said lock member in its second position being clear of said engagement portion to permit movement of said tongue to its release position.

6. The lock of claim 4, wherein said first user operable means causes movement of said lock means to its second position, and said second user operable means upon manipulation permits movement of said lock means to its first position.

7. The lock of claim 5, further including means biasing said lock member to its first position.

8. The lock of claim 4, 5 or 6 wherein said lock member is slidably mounted for linear movement on said base.

9. The lock of claim 2, wherein said first and second button means are located on opposite sides of said tongue.

10. The lock of any one of claims 5 or 6, further including a second lock member, said second lock member being movable between a first position maintaining said tongue in its retaining position, and a second position permitting movement of said tongue to its release position.

11. The lock of claim 10, wherein said second lock member is a disc rotatably mounted on said body, which disc is adapted to be rotated between its first and second positions by means of a cylinder lock.

12. The lock of claim 9 or 10, wherein said second lock member includes engaging means to engage said lock means to move said lock means to its second position when said second lock member is moved to its second position.

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13. A lock, substantially as hereinbefore described, with reference to the accompanying drawings.

Amendments to the claims have been filed as follows

1. A lock to prevent relative sliding apart movement between two elements, said lock comprising:

a base to be secured to a face of a first one of said elements which face is generally parallel to the direction of sliding apart movement;

a lock tongue to engage the other element to retain said other element fixed with respect to said first element, said lock tongue being mounted for movement between a retaining position with respect to said other element and a release position permitting separation of the elements;

lock means to selectively retain said tongue in said retaining position, said lock means being moveable between a first position maintaining said tongue in said retaining position and a second position permitting movement of said lock tongue to its release position;

first and second user operable means separate from and independent of said lock tongue and mounted on said base and operatively associated with said lock means so that upon manipulation of said first user operable means, said lock means is moved to its second position;

so that upon manipulation of said second user operable means, said lock means is moved to its first position; and

wherein said lock tongue is pivotally mounted for movement between its retaining and release positions, about a pivot axis which extends perpendicular to said direction of sliding apart movement so said lock tongue can move inward of said face for retaining and outward of said face for releasing, and said first and second user operable means are mounted for operative movement in a direction normal to said pivot axis.

2. The lock of claim 1 wherein said first user operable means and said second user operable means are respective first button means and second button means.

3. The lock of claim 1 or claim 2 wherein said lock

means is biased to its first position, said second user operable means permits movement of said tongue to its retaining position whereat said tongue is engaged by said lock means by movement thereof to its first position, and said tongue is biased to move to said release position.

4. The lock of claim 1, wherein said tongue includes an engagement portion, and said lock means includes a lock member, said lock member being moveable between a first and a second position, with said lock member in its first position engaging said engagement portion to retain said tongue in its retaining position, while said lock member in its second position being clear of said engagement portion to permit movement of said tongue to its release position.

5. The lock of claim 1, wherein said first user operable means causes movement of said lock means to its second position, and said second user operable means upon manipulation permits movement of said lock means to its first position.

6. The lock of claims 4, further including means biasing said lock member to its first position.

7. The lock of any one of the preceding claims wherein said lock means is slidably mounted for linear movement on said base.

8. The lock of claim 2, wherein said first and second button means are located on opposite sides of said tongue.

9. The lock of claim 1, further including a second lock member, said second lock member being movable between a first position maintaining said tongue in its retaining position, and a second position permitting movement of said tongue to its release position.

10. The lock of claim 9, wherein said second lock member is a disc rotatably mounted on said base, which disc is adapted to be rotated between its first and second positions by means of a cylinder lock.

11. The lock of claim 8 or 9, wherein said second lock member includes engaging means to engage said lock

means to move said lock means to its second position when said second lock member is moved to its second position.

12. A lock, substantially as hereinbefore described, with reference to the accompanying drawings.

Patents Act 1977

Examiner's report to the Comptroller under Section 17
(The Search report)

Relevant Technical Fields

- (i) UK Cl (Ed.M) E2A (AARD, AARJ, AARM, ACCC, AMXE)
 (ii) Int Cl (Ed.5) E05B 63/00, 65/00, 65/08; E05C 3/00, 3/02,
 3/08

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii)

Search Examiner
J D WILSON

Date of completion of Search
18 FEBRUARY 1994

Documents considered relevant following a search in respect of Claims :-
1-13

Categories of documents

- | | | | |
|----|---|----|---|
| X: | Document indicating lack of novelty or of inventive step. | P: | Document published on or after the declared priority date but before the filing date of the present application. |
| Y: | Document indicating lack of inventive step if combined with one or more other documents of the same category. | E: | Patent document published on or after, but with priority date earlier than, the filing date of the present application. |
| A: | Document indicating technological background and/or state of the art. | &: | Member of the same patent family; corresponding document. |

Category	Identity of document and relevant passages		Relevant to claim(s)
X, Y	GB 2258266 A	(GAINSBOROUGH) - whole document - note Claim 1	1,2 at least
Y	GB 2003540 A	(YOSHIDA KOGYO) - whole document	1 at least

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).